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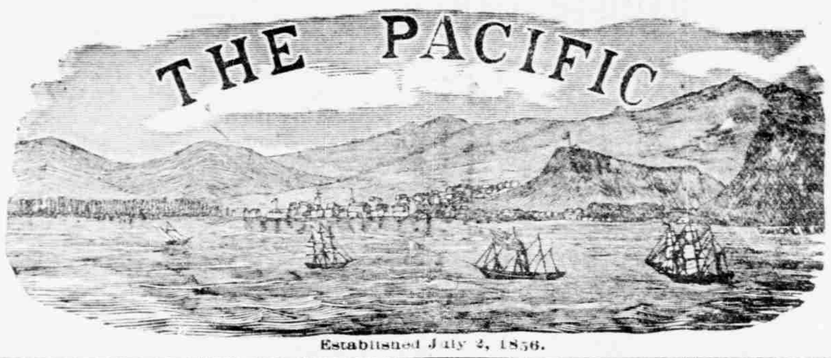

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For Army Work.

The first secretary sent out by the Y. M. C. A. in response to the request by the War Department for a representative to accompany each transport to Manila, is passing through on the Hancock. Mr. W. F. Gloeckner, the first representative chosen for the work, has devoted considerable time to army work at the Presidio, San Francisco. He will speak at the regular Sunday afternoon meeting of the local Y. M. C. A. if the vessel remains in port till then.

A PACIFIC CABLE

The Conclusions of Rear Admiral Bradford.

EASY ROUTE VIA THE ISLANDS

The Tug Iroquois Will Be Sent to Examine the Reefs About Midway Island.

WASHINGTON, Nov. 15.—Rear Admiral Bradford has completed the official naval project for a trans-Pacific submarine telegraph cable between San Francisco and Manila in time to supply Congress with all the essential information at the opening of the next session that will permit intelligent consideration of the subject and prompt action for the inauguration of the great work.

All doubt has been removed regarding the practicability of the enterprise by the adoption of Honolulu, Midway and Guam as relay stations on the long line and by the discoveries made from the naval survey ship Nero as to the character of the ocean bed between those points. The sounding instruments of this ship disclosed an abyss in the Western Pacific over five miles deep, but a slight divergence from a straight line fortunately developed a route avoiding this insuperable obstacle to laying a working cable. At another point, on the same stretch between Midway and Guam, a submerged mountain over 12,000 feet in height was discovered, and a reasonable level road around this was found.

A QUESTION FOR CONGRESS.

The physical practicability of the line being now assured beyond doubt, it only remains for Congress to weigh the military necessities and the commercial advantages to accrue from the construction and operation of the system. It was represented to Congress at its last session that the revenue to be expected from a Pacific cable would not attract private capital unless it had a connection with Australia, Japan and China, as well as with San Francisco, Honolulu and Manila. For that reason it was deemed indispensable that the United States should own Kusaie or Strong's Island, in the Caroline group, or a cable landing right there to insure the working of a loop to Australia. The absence of this may deter any corporation from undertaking the operation of a cable across the Pacific without a heavy subsidy.

The disposition to have an American cable line to Manila has probably become too strong for Congress to resist, and purely as a military safeguard, aside from the enormous business that must come with the further growth of American trade in the East, it is believed that the new line of communication will be established under Government ownership before the end of another year.

ADMIRAL BRADFORD'S ACCOUNT.

In his annual report to the Secretary of the Navy, which was made public today, Rear Admiral Bradford, Chief of the Bureau of Equipment, having charge of naval cable matters, says on this subject:

A practical route for a submarine telegraph cable was established between San Francisco and Honolulu some years ago. In order to continue the survey of the route from Honolulu to the Philippines, the United States steamer Nero, under Commander Charles Belknap, United States Navy, was very thoroughly fitted out and equipped for deep-sea exploration at the navy yard, Mare Island, during the early part of the present year. The Nero is a large steam collier purchased for use during the late war, and on account of her great steaming radius was admirably adapted to make the survey. After a careful consideration of the subject it was decided that the best route westward from Honolulu to the Philippine Islands was by way of the Midway Islands and Guam, landing the cable at a convenient point on the east coast of Luzon, as near as possible to the latitude of Manila. It was also decided as desirable to survey a route from Guam to Yokohama. Elaborate instructions for the survey were prepared. The plan of the survey which is represented on the accompanying chart, consists in carrying direct lines of soundings, taken at alternate intervals of ten and two knots, from Honolulu to the Midway Islands, thence to Guam, and thence to Luzon, and also from Guam to Japan. The return course to be pursued is a zigzag line passing back and forth to equal distances on each side of the route, followed in going to the westward, with soundings at intervals of twenty knots at the turning points.

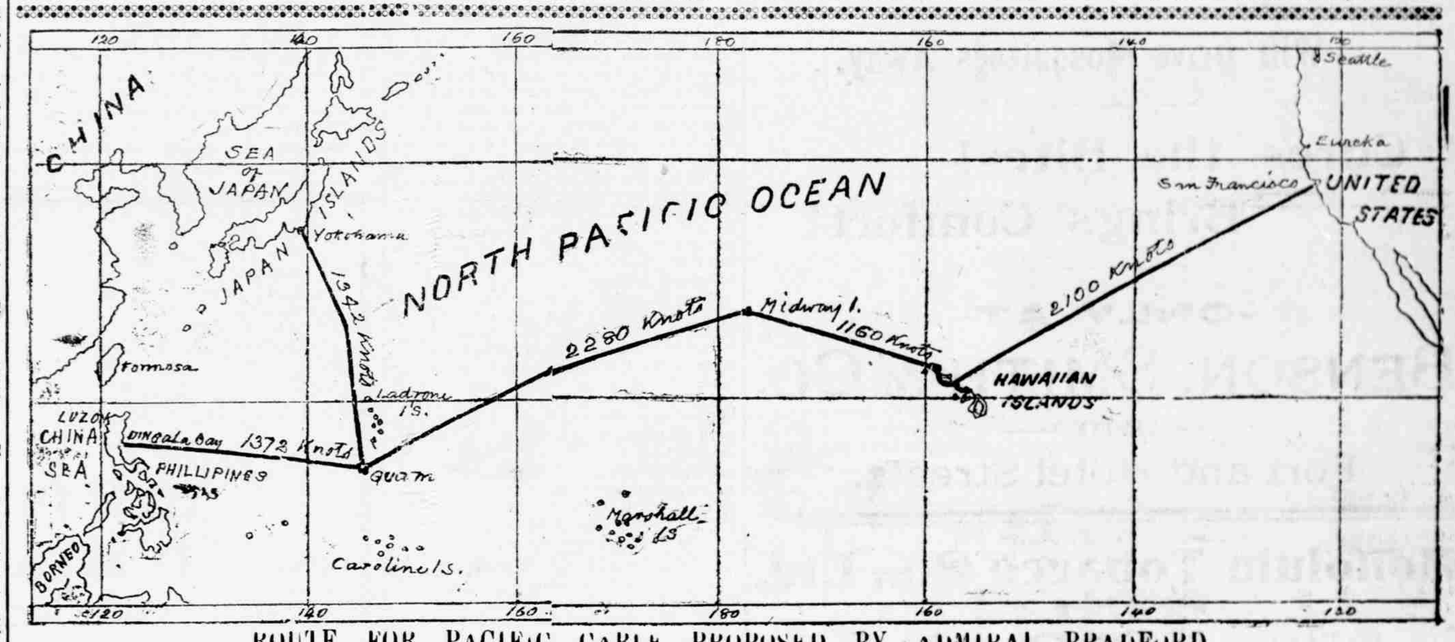
The Nero sailed from San Francisco for Honolulu on April 22. She sailed from Honolulu to commence her work on May 6. On May 22 she had completed a single line of soundings to the Midway Islands; by July 4 to Guam, and by August 1 to Luzon.

Along this route, which is 4,812 knots in length, 853 soundings were taken. The characteristics of the bottom soil and the temperature of the surface water were observed at each sounding station, and these, together with the meteorological record of the frequent observations of specific gravity, bottom temperature, and currents of the ocean, besides their value in laying a submarine cable, will form an important contribution to the physics of the Pacific ocean.

Two offsets from the projected great circle route between the Midway Islands and Guam were found to be necessary in order to avoid obstacles to a successful laying and operation of a telegraph cable. The first of these obstacles encountered is a submarine mountain situated a short distance westward of the Midway Islands, and rising from the floor of the ocean, which here sinks to a depth of 2,200 fathoms, to within 82 fathoms of the surface. The second obstacle is one of the deepest submarine abysses yet found in the world, situated about 500 miles eastward of Guam and sinking to a depth of more than 4,900 fathoms. Reports have been received of the preliminary line of soundings from Honolulu to Luzon, and they indicate that the route which is being surveyed will prove entirely practicable. No reports of the soundings taken on the return trip or of any soundings from Guam to Yokohama have been received. The expenses of this survey, so far as this bureau is concerned, have been entirely defrayed from its current appropriations.

FURTHER SURVEYS TO BE MADE.

A map of the cable route is given with the report. To secure more information about the Midway Islands Admiral Bradford is now fitting out the ocean-going, twin-screw naval tug Iroquois, with surveying apparatus, at Honolulu, to make a thorough examination of the reefs surrounding that small midocean archipelago. At the same time the Yosemite is making an exhaustive investigation of Guam, and the Bennington, which is equipped with surveying outfit, will chart the coast of Luzon, near Dingalan bay, where it is proposed to land the Manila end of the cable.



ROUTE FOR PACIFIC CABLE PROPOSED BY ADMIRAL BRADFORD

ROOSEVELT IN ATHLETICS.

The New York Governor Will Take a Winter Course in Boxing.

NEW YORK, Nov. 18.—Governor Roosevelt has made arrangements with

(Continued on Page 2.)

MARCONI SYSTEM

How It Is Developing In Naval Warfare.

MAKES A TORPEDO SENTIENT

The Submarine Terror Can be Made to Follow a Ship Like a Hungry Shark.

LONDON, Nov. 17.—At last a means has been discovered of guiding a torpedo on its mission of death. The principle of wireless telegraphy is to be applied to the steering of these submarine infernal machines, and, according to those who have examined the invention, this plan has been found to work so well that the torpedo may be reckoned among the heaviest thunderbolts of war, instead of being, as heretofore, the jest of naval experts.

The invention consists of an application of the use of electric waves just as in wireless telegraphy, which obviates any necessity for metallic connection between the torpedo and the torpedo boat. To understand the plan of procedure, it must be remembered that an iron rod is sucked into a coil of wire, when an electric current traverses the spiral in a suitable direction. The torpedo is provided with two staffs which project above the surface of the water, and can receive electric waves reaching them through the air, and generated by a suitable apparatus on the torpedo boat. To the rudder-head of the torpedo are attached two coils of wire with two cores of iron near them. When an electric current passes round the coils in one direction, one of the cores is sucked in, while if the current circulates in the other direction the other core enters its spiral. Suppose the torpedo leaves its proper course; it is at once righted in the following way: Electric waves are developed on the torpedo boat, pass through the air, and are received by the staffs attached to the torpedo. These, by a simple apparatus, are made to develop an electric current in the coils of wire, and one or the other of the iron cores, as occasion requires, is sucked into its coil, and this movement turns the helm of the torpedo. When the torpedo has reached its proper course, the waves from the controller are stopped. The invention will render it possible to cause a torpedo to move in any direction almost as if it were possessed of a separate intelligence.

That statement is not an exaggeration. The torpedo of the future will actually be made to follow the direction of the ship it seeks to fasten to and destroy. If the torpedo is seen by those aboard this ship and a frantic effort is made to escape the direct line of discharge, it will be useless, for the nose of the torpedo will be immediately turned by those aboard the torpedo boat in the new direction taken by the hostile ship, and after that, whichever way the escaping boat turns, the torpedo will follow is as relentlessly as doom. Never was such diabolical intelligence given to an inanimate thing as the wireless telegraph principle will give to the torpedo of the future. What escape would there be for a ship followed by a shark which could by merely poking his nose against the side of the boat send the vessel with all aboard to the bottom? Guided by the electric waves that are controlled by the crew of the torpedo boat, the new torpedo will be just as impossible to shake off as the living fish.

This seems to have solved the great puzzle that has made torpedoes as much of a menace to those who fired them as to those against whom they were directed. The history of torpedo warfare has always tended to place the supposedly terrible missile in a ridiculous light. Here and there are recorded instances of the torpedo taking effect and sinking a vessel, but for every torpedo that has fulfilled its mission, hundreds have exploded harmlessly and killed only the fishes that were unlucky enough to be in the vicinity of the explosion. This helplessness of the torpedo after it has once left the side of the vessel firing it has been the main cause of the lack of respect naval officers have felt for it. The searchlight has made it so risky to attack a vessel with a torpedo at night that only a very reckless commander would attempt it, while the various devices for guarding a ship's side against torpedoes have made these missiles almost certain to fail in their object. Then again it was so easy to dodge a torpedo when its direction once became apparent, and the certainty of the aim was always a doubtful thing where the range was necessarily long, and many obstacles likely to be encountered by the torpedo during its submarine flight to deflect it from its course.

Now all this is changed. When the torpedo which is used by most of the navies here, the Whitehead, is fired from a vessel's side it drops into the water at a distance of fifteen feet, dives about twenty feet, and then shoots up and goes through the water like a fish for a distance of about half a mile, which distance it covers in about a minute. It is a costly missile, and the British naval officers have always thought it of doubtful effectiveness in warfare. With the "Whitehead" guided by electric waves, however, it is realized that the torpedo takes on a new and formidable aspect that places it in an entirely new category among weapons of war.

Whether or not the same principle that directs the torpedo from the vessel that launches it could be used by those on board the threatened ship, to turn it back on those who fired it, is another interesting problem that presents itself at the beginning of speculative thinking on this subject. It is certain that some method of defense will be found by ingenious minds against the newly found means of blowing up ships. As an American, I have little hesitation in predicting that the ingenious mind will belong to some citizen of the United States, and furthermore that the method of defense will be as ingenious as the present clever plan of offense, thus relegating this over-estimated submarine missile to the position it has so long occupied, that of a butt for the ridicule of naval men.

BECOMES A NUN.

A Beautiful Heiress of New York Will Enter a Convent.

NEW YORK, Nov. 18.—Miss Josephine Drexel, beautiful, barely out of her teens and heiress to $10,000,000, is thinking of taking the veil and giving her fortune to the church. It is said she has been greatly influenced to this end by her aunt, now known as "Mother Catherine," who became a nun several years ago. The two have been traveling together for some time in the South.

Josephine Drexel is the daughter of Joseph M. Drexel of 103 Madison avenue. She is tall, fair, and in contour of face and figure has been likened to Mrs. Grover Cleveland. She made her debut in society in 1897.

In many points of character Miss Drexel resembles Helen Gould. She is very independent and refuses to be bound by the conventionalities of society. She despises the tendency of American women to put an extravagant value on foreign titles. Like Miss Gould, she wishes to do something in the world.

Miss Drexel is one of three sisters, the other two being married, each to a son of Admiral Dalghren of Washington.